

**STATE OF MINNESOTA  
PUBLIC UTILITIES COMMISSION**

Nancy Lange	Chair
Daniel Lipschultz	Commissioner
Matt Schuerger	Commissioner
Katie Sieben	Commissioner
John Tuma	Commissioner

**In the Matter of a Commission  
Inquiry into Standby Service  
Tariffs**

**April 23, 2017**

**MINNESOTA SOLAR ENERGY  
INDUSTRIES ASSOCIATION'S  
COMMENTS ON VARIOUS  
INVESTOR OWNED  
UTILITIES' FILED STANDBY  
TARIFFS**

**Docket No. E999/CI-15-115**

**COMMENTS OF THE MINNESOTA  
SOLAR ENERGY INDUSTRIES ASSOCIATION**

**I. BACKGROUND**

On November 14, 2011, Xcel filed a stipulated settlement agreement with several parties regarding its rate case. Within the agreement, Xcel agreed to study the load profiles of larger scale solar facilities.<sup>1</sup>

On December 12, 2012, the Department proffered an approach to calculating a capacity credit that results in a figure close to the \$5.15 estimated credit amount.<sup>2</sup> This was after some parties, like the Department in its original position and the Solar Rate Reform group, felt the capacity credit's value should be \$8.35, while Xcel contended it should be \$2.00.<sup>3</sup>

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<sup>1</sup> See OTHER – STIPULATION AND SETTLEMENT AGREEMENT, XCEL ENERGY, Docket No. E002/GR-10-971, Doc. ID 201111-68338-01 (Nov. 14, 2011).

<sup>2</sup> See COMMENTS – DEPARTMENT OF COMMERCE, Docket No. E002/GR-10-971, Doc. ID 201212-81299-01 at 7-9.

<sup>3</sup> See REPLY COMMENTS – DEPARTMENT OF COMMERCE, Docket No. E002/GR-10-971, Doc. ID 20131-82947-01 at 5 (Jan 18, 2013).

On May 12, 2012, the Commission adopted Xcel's settlement agreement and directed Xcel to file the results with the Department.<sup>4</sup>

On August 24, 2012, Xcel filed its load profile study for parties to review.<sup>5</sup>

On January 8, 2013, the Department and several groups filed comments stating that Xcel's study did not accurately reflect the solar capacity values during peak periods.<sup>6</sup>

On April 25, 2013, the issue came before the Commission. An interim rate was set for \$5.15 per kW per month.<sup>7</sup>

On May 19, 2014, the Commission decided to retain the interim rate and requested that Xcel file revised tariffs bi-annually, and a generic proceeding on standby services was started.<sup>8</sup>

On February 12, 2015, the Commission issued a Notice for Comment on a Standby Service Tariff Proceeding.<sup>9</sup>

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<sup>4</sup> See ORDER – FINDING OF FACTS, CONCLUSIONS AND ORDER, MINNESOTA PUBLIC UTILITIES COMMISSION, Docket No. E002/GR-10-971, Doc. ID 20125-74691-01 at 35 (May 12, 2014).

<sup>5</sup> See COMPLIANCE FILING – SOLAR LOAD PROFILE STUDY, XCEL ENERGY, Docket No. E002/GR-10-971, Doc. ID 20128-78123-02 (Aug. 24, 2012).

<sup>6</sup> See REPLY COMMENTS, DEPARTMENT OF COMMERCE, Docket No. E002/GR-10-971, Doc. ID 20131-82947-01 (Jan 18, 2013).

<sup>7</sup> See ORDER – ORDER SETTING INTERIM RATE AND ESTABLISHING NEW SOLAR DOCKET, Docket No. E002/GR-10-971, Doc. ID 20135-86928-03 at 3-4 (May 13, 2013).

<sup>8</sup> See ORDER - ORDER SETTING FINAL SOLAR PHOTOVOLTAIC STANDBY SERVICE CAPACITY CREDIT, REQUIRING UPDATES, AND REQUIRING COMPLIANCE FILING, MINNESOTA PUBLIC UTILITIES COMMISSION, Docket No. E002/GR-13-315, Doc. ID 20145-99678-01 (May 19, 2014).

<sup>9</sup> NOTICE OF COMMENT PERIOD – ON SCOPE FOR GENERIC PROCEEDING ON STANDBY SERVICE TARIFFS, MINNESOTA PUBLIC UTILITIES COMMISSION, Docket No. E-999/CI-15-115, Doc ID 20152-107287-01 (Feb. 12, 2015).

On November 19, 2015, after several months of stakeholder input, the Commission ordered that the rate regulated utilities file revised standby tariffs by May 19, 2016 for review.<sup>10</sup>

On June 15, 2016 Fresh Energy sought an extension variance request to ensure commenters could participate.<sup>11</sup> The deadline for commentary was moved to August 19, 2016.<sup>12</sup> After another extension Reply Comments were due November 9, 2016.<sup>13</sup>

On December 13, 2016 and January 25, 2017, the Department of Commerce held individual working groups to talk about different issues. The first workshop focused on general standby tariffs, and the second one centered specifically on solar and their role in standby tariffs.<sup>14</sup>

On February 17, 2017, the Commission requested additional commentary on the issues.<sup>15</sup>

## II. COMMENTS

- i. **XCEL ENERGY’S STANDBY TARIFF SHOULD BE APPROVED AS IS, BUT THE COMMISSION SHOULD APPROVE ALL OTHER UTILITY STANDBY TARIFFS IF THE UTILITY EITHER INCLUDES SOLAR IN ITS STANDBY PROGRAM OR DEVELOPS ITS OWN PV CAPACITY CREDIT RIDER.**

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<sup>10</sup> See ORDER – ORDER REQUIRING TARIFF, MINNESOTA PUBLIC UTILITIES COMMISSION, Docket No. E-999/CI-15-115, Doc ID 201511-115811-01 (Nov. 19, 2015).

<sup>11</sup> EXTENSION VARIANCE REQUEST, FRESH ENERGY AND MIDWEST COGENERATION ASSOCIATION, Docket No. E-999/CI-15-115, Doc ID 20166-122275-01 (Jun. 15, 2016).

<sup>12</sup> NOTICE OF EXTENSION VARIANCE, PUC, Docket No. E-999/CI-15-115, Doc ID 20166-122332-01 (Jun. 17, 2016).

<sup>13</sup> EXTENSION VARIANCE REQUEST, DOC DER, Docket No. E-999/CI-15-115, Doc ID 20169-124668-02 (Sept. 8, 2016).

<sup>14</sup> NOTICE – OF PROPOSED WORKSHOPS ON STANDBY RATES, DOC DER, Docket No. E-999/CI-15-115, Doc. ID 201611-12627-02 (Nov. 18, 2016).

<sup>15</sup> NOTICE OF COMMENT PERIOD, PUC, Docket No. E-999/CI-15-115, Doc. ID 20172-129167-01 (Feb. 17, 2017).

Xcel Energy's (Xcel) Standby Tariff will no longer contain PV, and instead they are creating a PV rider. While we discuss some modifications of the PV Rider below, our opinions on that now separate and distinct program has no bearing on whether Xcel's Standby tariff should be approved. In Xcel's case, solar should be removed from the standby rider, as has been requested.

The other three utilities, however, should only have their standby tariffs approved if there is some valuation for solar capacity in their rate books. Dakota, Otter Tail and Minnesota Power should each have their own capacity credit for solar in their standby tariffs or they should be required to do a PV rider, like Xcel.

In our August 19, 2016 commentary we detailed the needs for a capacity credit, and the value it provides to the utilities. To rehash those positions briefly 1) solar capacity always provides some tangible capacity even during off-peak daytime hours and 2) variable capacity may not be ideal but is still of value.<sup>16</sup> We still feel strongly about those points.

In addition, during the stakeholder meetings, our impression was it seemed that Dakota, Otter Tail (OTP) and Minnesota Power (MP) did not feel that their peak coincided with solar capacity and therefore it was not of *much* value. The utilities did all agree that a capacity credit is warranted and of considerable value if a system is comprised of solar plus storage. At that point, where solar can be delivered at peak periods via batteries and the like, all the utilities admitted that it is worth compensating. The fact that solar plus storage is not quite cost effective should not detract from its application in tariff today, because it is clear that energy storage is on the horizon. Moreover, having a capacity credit in a rate book that provides additional and just compensation for someone who can develop energy storage plus solar is a great way to encourage the development of new, utility-beneficial technologies.

The best procedural pathway for developing capacity credits for Dakota, MP and OTP is to have the Commission order the utilities to develop their own capacity credit values, and then have a comment period once those values are published. The values should have a value for capacity delivered during both on-peak and off-peak daytime hours. The requirement for a solar capacity credit in the standby program should not interfere with the rest of the standby tariff going into place. As such we would recommend the following decision option:

Approve Otter Tail's, Minnesota Power's and Dakota's Standby Service Riders, but require the utilities file a solar capacity value for both on-peak and off-peak daytime solar 120 days after the publishing of this Order, and require the utilities to also request whether they would prefer the credit be included in their standby tariff or as a separate PV rider. The capacity values should be derived using the Department of Commerce's January 18, 2013 methodology.

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<sup>16</sup> See COMMENTS, MINNESOTA SOLAR ENERGY INDUSTRIES ASSOCIATION, Docket No. E-999/CI-15-115, Doc. ID 20168-124295-01 at 4-5 (Aug. 19, 2016).

**ii. XCEL ENERGY'S PV RIDER SHOULD INCLUDE UPDATED AND ESCALATED NUMBERS.**

Xcel's existing capacity credit was implemented in May 2013, and since that time summer and winter demand rates have gone up 15.9% and 18% respectively. This results in a levelized rate of about 17.3%.<sup>17</sup> As we stated in our earlier comments:

From a deductive approach it seems arbitrary to assume that capacity costs will remain constant indefinitely, especially when probing into the history of the \$5.15 credit. This capacity credit value was derived by taking two different methodologies, each predicated upon variables that change overtime, and then the values were averaged. Presumably the two methodologies that the \$5.15 credit was based on have also changed overtime, but the current capacity value is treated as a constant, only because it was the original byproduct of a settlement arrangement.<sup>18</sup>

Any capacity valuation should be consistent with its value to the utility at the moment the exchange of capacity occurs, otherwise the utility is being unjustly enriched at the expense of the qualifying facility. Demand charges are the best way to track historical trends in utility energy capacity needs, because demand is inherently an indicator of the amount of power the grid needs to run in a reliable, effective and safe manner. To keep the capacity credit consistent with demand rate changes, the credit should also be increased 17.3%. This would value today's credit at \$6.04/kw-mo. instead of \$5.15/kw-mo.

Going forward, an escalation rate that tracks with a utility's energy prices will result in a dynamic, but less financeable approach. This is the same issue that was before the Commission in the Community Solar Garden docket 13-867 when it evaluated the Applicable Retail Rate (ARR) and the Value of Solar Rate. Ultimately the Commission gravitated towards the Value of Solar (VOS) rate, in part, because even though the ARR was likely to produce a higher escalation rate, the VOS's locked in escalation method provided certainty. Instead of altering the capacity credit on an annual basis using demand numbers, it makes sense to set contracts – that are forward looking in nature – with the same fixed escalator (the consumer price index) as is in the VOS.<sup>19</sup>

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<sup>17</sup> See ATTACHMENT 1.

<sup>18</sup> COMMENTS, MINNESOTA SOLAR ENERGY INDUSTRIES ASSOCIATION, Docket No. E-999/CI-15-115, Doc. ID 20168-124295-01 at 7 (Aug. 19, 2016).

<sup>19</sup> See ORDER APPROVING VALUE-OF-SOLAR RATE FOR XCELS SOLAR GARDEN PROGRAM, CLARIFYING PROGRAM PARAMETERS, AND REQUIRING FURTHER FILINGS, PUC, Docket No. E-002/M-13-867, Doc ID at

**iii. SOLAR PROVIDES CAPACITY TWELVE MONTHS OF THE YEAR, SO IT SHOULD BE COMPENSATED ACCORDINGLY.**

Since our initial comments where we stated that the capacity credit should be twelve (12) months instead of ten (10), Xcel has rebutted this presumption. In their reply comments they state:

In reviewing the conversion methodology, commenters questioned the Company's assumption regarding the degree that current solar standby customers access grace period hours. The proposed solar capacity credit per kWh was based on the assumption that the current credit is applied ten months each year, with the other two months qualifying as grace period months. The solar capacity credit does not apply during the two grace period billing months that are typical for solar generation customers.

Approximately half of the solar customers have one grace month annually and the other half have two grace months annually. Recognizing this would make an assumption of 10.5 months a reasonable adjustment to the conversion calculation for the proposed kWh credit basis. This would increase the proposed credit from \$0.07395 per kWh to \$0.07765 per kWh.<sup>20</sup>

Xcel's position seems to miss the crux of the argument. Developers and customers found it reasonable previously to have the grace-period replace their capacity credit for 1-2 months, because the grace period added an additional benefit over-and-above the capacity credit. That is to say, during a grace period the QF receives more compensation than the \$5.15/kw-mo. capacity credit. It was as if they were receiving a capacity credit for most of the year, and then a "capacity credit-plus" for the remainder. As such, neither developers nor QFs protested the fact that within the standby program they were only getting capacity credits for 10-11 months. But conceptually the credit should have been applied all year round, because the system was providing Xcel with capacity all year round. The 10 months Xcel has argued for is an artifact of a prior program, and is not applicable for the new PV Rider.

Now that the grace-period is being separated from the capacity credit, the full year's valuation should be included in the formulation – not 10 months as Xcel first argued or 10.5 months as they later asserted. It must be 12. Anything short of that would be unjust enrichment, because Xcel will be gaining capacity from the QF's without compensation. If the Commission accepts that capacity 1) has value to the utility; 2) that the arrays produce capacity all year round; and 3) that Xcel should compensate the QFs fairly, then it follows that the credit should be administered every month.

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20169-124627-01 at 13-15 (Sept. 6, 2016).

<sup>20</sup> REPLY COMMENTS, XCEL ENERGY, Docket No. E-999/CI-15-115, Doc. ID 201611-126391-01 at 8 (Nov. 9, 2016).

If the capacity credit is appropriately escalated using past demand charges to today, and if the average number of non-grace period months is increased to 12, we calculate that the correct capacity credit value is **\$.10408/kwh**. Therefore, if the current capacity credit is adopted, it will short QFs **\$.0313/kwh** for their capacity produced during daytime on-peak periods.

**iv. BECAUSE SOLAR PROVIDES CAPACITY VALUE DURING ALL PERIODS OF THE DAY, THERE SHOULD BE SOME CREDIT VALUATION FOR OFF-PEAK, DAYTIME HOURS.**

A more egregious omission from the capacity credit valuation is the lack of off-peak daytime value for capacity provided. Xcel's program only provides credit for capacity procured between the hours of 1pm-7pm, but solar is providing capacity at all times during the day. Our members have even provided us with data to suggest that approximately 60% of the capacity provided to Xcel in a 24-hour period occurs during off-peak daytime hours.<sup>21</sup> Because capacity is always of some value - even if it is nominal - then it seems prudent to compensate QFs for their delivered capacity at all daytime hours. Anything less would be unjust enrichment.

The capacity credit concept is predicated on ensuring that QFs are adequately and fairly compensated for their capacity generation. Under PURPA QFs are compensated for their capacity and energy provided, regardless of time, and this same reasoning should apply here as well. The real question is how to value the off-peak capacity, since it is less valuable to the utility than on-peak capacity.

On March 9, 2017, we filed an information request to Xcel Energy. We asked one question. We requested Xcel to “[p]lease provide Xcel Energy’s off-peak capacity factor for a typical solar array. Please include one number for all off-peak hours, including nighttime conditions, and one that only includes off-peak daytime hours.” In response, Xcel stated the following:

The overall 15.9 percent capacity factor is consistent with the capacity factor assumption used in Docket No. E002/RP-15-21 for customer-sited solar photovoltaic (PV) systems. The Company estimated that approximately 50 percent of total production would occur between the hours of 1pm and 7pm based on a comprehensive review of hourly customer solar PV data. Several factors may affect the overall capacity factor and its separation into on-peak and off-peak components, such as weather variations, panel configurations, and solar PV efficiency improvements. The Company expects to incorporate future customer experience with solar PV production to verify or update assumptions for capacity factor and peak-period production. The Company has not attempted to define or quantify a separation of off-peak solar production into day time and night time categories.<sup>22</sup>

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<sup>21</sup> We are able to disclose this data upon staff request, and if allowed a trade-secret designation.

<sup>22</sup> ATTACHMENT 2.

The response illustrates that Xcel has yet to compute a value for daytime, off-peak energy. This is an important question to have answered before setting a permanent off-peak capacity credit valuation.

In order to derive a scientifically justified value, we would suggest that the Commission require Xcel to study capacity provided during daytime hours outside of the peak period, and to determine its capacity factor. We would also suggest that while Xcel's study is being conducted that 50% of the current credit (as modified in previous sections) is provided for capacity produced outside of peak periods. This would be \$.05204/kwh. This intermediary rate would ensure QFs are compensated with something closer to fair market value for their capacity provided than they currently are.

**v. THE SOLAR CAPACITY CREDIT LIMITS SHOULD BE STRICKEN FROM THE TARIFF.**

MnSEIA believes that the solar capacity credit limits that are outlined in the tariff are detrimental to the program.<sup>23</sup> The specific language is as follows:

**CREDIT KWH LIMIT**

The maximum kWh applied to the Rider credit per kWh each billing period is the Peak Period maximum 15-minute Solar Photovoltaic kW output for the billing period times 100 hours for billing periods ending in the months of June, July, August or September and 75 hours for billing periods ending in other months.

**CREDIT LIMIT**

The maximum credit for each billing period is the applicable standard or on-peak billed demand charge from the base tariff associated with this Rider. For Peak-Controlled Service and Peak-Controlled Time of Day Service customers, the maximum credit for each billing period is the billed demand charge for Firm Demand.<sup>24</sup>

When taken in tandem the two paragraphs result in a needlessly confusing limit to a problem that does not exist.

In their capacity credit rider petition, Xcel stated "it is our aim to encourage efficient use of system resources, minimize complexity, improve customer understanding, send appropriate price

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<sup>23</sup> See XCEL ENERGY PETITION PUBLIC, XCEL ENERGY, Docket Nos. E999/CI-15-115 & E002/CI-13-315, Doc ID. 20165-121503-01 & 20165-121503-02 at 16 & ATTACHMENT A pp. 30 (May 19, 2016) [hereinafter, *Xcel Petition*]

<sup>24</sup> *Id.* at ATTACHMENT A pp. 30.



signals, and minimize cross-subsidies.”<sup>25</sup> Integrating a kW-limit into a kWh credit with arbitrary bounds is counterproductive to minimizing complexity and improving customer understanding.

What makes this issue rather perplexing is there is no need to provide additional restrictions on system sizes or generated capacity. The net-metering statute, Minn. Stat. § 216B.164 subd. 4c, already governs system sizing relative to QF load. It states the following in pertinent part:

**Subd. 4c.** Individual system capacity limits.

(a) A public utility that provides retail electric service may require customers with a facility of 40-kilowatt capacity or more and participating in net metering and net billing to limit the total generation capacity of individual distributed generation systems by either:

(1) for wind generation systems, limiting the total generation system capacity kilowatt alternating current to 120 percent of the customer's on-site maximum electric demand; or

(2) for solar photovoltaic and other distributed generation, limiting the total generation system annual energy production kilowatt hours alternating current to 120 percent of the customer's on-site annual electric energy consumption.<sup>26</sup>

The above statute sufficiently ensures that Xcel will only have systems that provide capacity and energy relative to their size and QF energy usage. There is no need to add additional “limits” on the QF’s capacity generation. Xcel’s tariff limit language seems to be more of a preemptive program limit on capacity procured during off-peak hours, because it will have a minimal effect on capacity produced during 1pm – 7pm.

Moreover, these capacity limits come with little explanation and with no basis. There is no reason for the arbitrary “100 hours” in some months and “75 hours” in others. The record, to our knowledge, provides no support for these specific numbers. Xcel also does not explain how the 15-minute PV kW output values are measured.

Lastly, there are several other problems with this tariff language itself. For instance, the language and structure of the tariff capacity limits is confusing. Ordinarily confusing language may not be an impediment to tariff adoption, but one of the primary purposes of removing the capacity credit from the standby service tariff is to reduce confusion.

**vi. CONCLUSION AND REQUESTS**

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<sup>25</sup> *Xcel Petition, supra* note 23 at 2.

<sup>26</sup> Minn. Stat. § 216B.164, subd. 4c.

We believe that all rate regulated utilities must have a capacity credit either within their standby tariff or must develop a PV capacity credit rider, if they have not. We request the Commission order this point:

Approve Otter Tail's, Minnesota Power's and Dakota's Standby Service Riders, but require the utilities file a solar capacity value for both on-peak and off-peak daytime solar 120 days after the publishing of this Order, and require the utilities to also request whether they would prefer the credit be included in their standby tariff or as a separate PV rider. The capacity values should be derived using the Department of Commerce's January 18, 2013 methodology.

We also believe that Xcel's current capacity credit valuation is inadequate, because 1) it does not have past escalation rates included; 2) there is no future escalation rate provided; 3) it inappropriately removes all 12 months of the year from the equation; and 4) it does not encapsulate off-peak daytime capacity Xcel receives. Adopting our proposals, would result in a total value of \$**.10408/kwh** for the Capacity Credit - anything less would be unjust compensation for the capacity solar provides to Xcel.

We request that the Commission order Xcel to do the following:

1. Update the \$5.15/kw-mo. credit to include past demand charge increases, so that it is \$6.04/kw-mo.
2. Adopt the Consumer Price Index as the escalation rate for the capacity credit.
3. Include all 12 months in the conversion process from \$/kw-mo. to \$/kwh.
4. Develop a valuation for off-peak daytime capacity supplied by QFs to the utility.
5. Adopt a \$.05204/kwh interim capacity credit for capacity provided during off-peak daytime hours that will last until the Commission approves Xcel's valuation for off-peak daytime capacity supplied by QFs to the utility.
6. Remove the capacity credit limits from the tariff.

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